UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,331	04/12/2006	Patrick Fontaine	PF030159	3620

7590 06/15/2007

Joseph J Laks
Patent Operations
Thomson Licensing Inc
PO Box 5312
Princeton, NJ 08543-5312

EXAMINER	
REGO, DOMINIC E	
ART UNIT	**PAPER NUMBER**
2618	
MAIL DATE	**DELIVERY MODE**
06/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/575,331	FONTAINE ET AL.	
	Examiner	Art Unit	
	Dominic E. Rego	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/12/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3,5,6,9,10,12-14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forssen et al. (International Publication # WO 95/09490) in view of Proctor, Jr. et al. (US Patent #6,941,152).

Regarding claim 1, Forssen teaches method of communication in respect of transmitting/receiving stations in a wireless communication network, in which method first multi-receiver frames are exchanged between a station and a plurality of other stations (Page 6, line 13-Page 7, line 7) and second mono-receiver frames are exchanged between a transmitting station and a receiving station (Page 6, line 13-Page 7, line 7), the first frames being transmitted in an omnidirectional manner (See Figure 2(a), wherein the second frames are transmitted in a directional manner (See Figure 2(b)), except in that the transmission in a omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner.

However, in related art, Proctor, Jr. teaches in that the transmission in a omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner (Col 1, lines 18-48; Col 4, line 59-Col 5, line 33).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Proctor, Jr. to Forssen in order to reduce interference.

Regarding claim 2, the combination of Forssen and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches method according to claim 1, wherein the most robust transmission is effected at a lower throughput than the least robust transmission (Col 4, line 59-Col 5, line 33).

Regarding claims 3 and 10, the combination of Forssen and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches method, wherein the mono-receiver frames are modulated by a modulation with a first number of phases and in that the multi-receiver frames are modulated by a modulation with a second number of phases, and in that the first number of phases is higher than the second number of phases (Col 4, line 59-Col 5, line 33).

Regarding claims 5 and 12, the combination of Forssen and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches Method, wherein the mono-receiver frames are coded with a first forward error correction rate and the multi-receiver frames are coded with a second forward error correction, and in that the first rate is higher than the second rate (Col 4, line 59-Col 5, line 33).

Regarding claims 6 and 13, the combination of Forssen and Proctor, Jr. do not specifically teach method, wherein the mono-receiver frames and the multi-receiver frames are modulated by the same modulation. However, Forssen, Page 6, line 25-page 7, line 7, teaches a base station transmits broadcast information, control

messages, and paging messages (modulated signal) on a widelobe downlink channel. The base station also listens to all of the mobile stations in its assigned geographical area on a wide lobe uplink channel 30 where, for example, mobile stations can send access requests to the base station. The base station collects the signals from the surrounding area at the antenna array. The collected signals are then entered into a signal processor which evaluates all of the individual signals to detect the presence of a mobile station and to measure the position of the mobile station. The base station can then use these position measurements to reduce the width of the antenna lobe used to send signals (modulated signal) to particular mobile stations, i.e., assign the mobile station a class two channel, after the position of the mobile station is determined to be above a predetermined level of certainty, so mono-receiver frames and multi-receiver frames are modulated by the same modulation.

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Proctor, Jr. and Forssen in order to reduce size of the system by using the same mosulation.

Regarding claim 9, Forssen teaches transmitting and/or receiving station for a wireless communication network, wherein said station comprises means to transmit and/or receive multi-receiver frames in an omnidirectional manner (See Figure 2(a); Page 6, line 13-Page 7, line 7) and means to transmit and/or receive mono-receiver frames in a directional manner (See Figure 2(b)), except the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner.

However, in related art, Proctor, Jr. teaches the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner (Col 1, lines 18-48; Col 4, line 59-Col 5, line 33).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Proctor, Jr. to Forssen in order to reduce interference.

Regarding claim 14, the combination of Forssen and Proctor, Jr. teach all the claimed elements in claim 9. In addition, Forssen teaches station, wherein it comprises at least one omnidirectional antenna and one or more directional antennas (See figures 2(a) and 2(b); Page 6, line 13-Page 7, line 7).

Regarding claim 18, the combination of Forssen and Proctor teach all the claim element in claim 9. In addition, Forssen teaches wireless communication network wherein it comprises several transmitting and/or receiving stations (Page 6, lines 13-24).

3. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forssen et al. (International Publication # WO 95/09490) in view of Proctor, Jr. et al. (US Patent #6,941,152) and further in view of Trompower (US Patent #6,132,306).

Regarding claims 4 and 11, the combination of Forssen and Proctor, Jr. fails to teach method, wherein the mono-receiver frames are modulated by a modulation with

more than two phases and in that the multi-receiver frames are modulated by a two phases modulation.

However, in related art, Trompower teaches method, wherein the mono-receiver frames are modulated by a modulation with more than two phases and in that the multi-receiver frames are modulated by a two phases modulation (Col 11, lines 17-34).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Trompower to Forssen and Proctor, Jr. in order to avoid interference.

4. Claims 7,8,16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forssen et al. (International Publication # WO 95/09490) in view of Proctor, Jr. et al. (US Patent #6,941,152) and further in view of Sayers et al. (US Patent Application Publication #2006/0142013).

Regarding claims 7 and 16, the combination of Forssen and Proctor, Jr. fail to teach method, wherein the transmission is in compliance with one of the standard belonging to the set comprising: Hiperlan type 2; and IEEE802.11a.

However, in related art, Sayers teaches method, wherein the transmission is in compliance with one of the standard belonging to the set comprising: Hiperlan type 2; and IEEE802.11a (Paragraph 0004).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Sayers to Forssen and Proctor, Jr. in

order to provide a direct wireless link to a standard Ethernet network connection (See Sayers, Para. 0004).

Regarding claims 8 and 17, the combination of Forssen and Proctor, Jr. fail to teach method, wherein the transmission is in compliance with IEEE 802.11g.

However, in related art, Sayers teaches method, wherein the transmission is in compliance with IEEE 802.11g.

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Sayers to Forssen and Proctor, Jr. in order to provide a direct wireless link to a standard Ethernet network connection (See Sayers, Para. 0004).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forssen et al. (International Publication # WO 95/09490) in view of Proctor, Jr. et al. (US Patent #6,941,152) and further in view of Pekonen et al. (US Patent #7,092,672).

Regarding claim 15, the combination of Forssen and Proctor, Jr. teach all the claimed elements in claim 9, except station, wherein it comprises four directional antennas oriented at 90 degree with respect to one another.

However, in related art, Pekonen teaches station, wherein it comprises four directional antennas oriented at 90 degree with respect to one another (Col 4, lines 35-55).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Pekonen to Forssen and Proctor, Jr. in order to enable the antenna's angle of coverage to be adjusted.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

El Batt (US Patent Application Publication #2003/0152086) teaches apparatus, method, and computer program product for wireless networking using directional signaling.

Smidth (US Patent Application Publication #2003/0122632) teaches fast timing acquisition for multiple radio terminals.

Corbett et al. (US Patent Application Publication #2004/0242273) teaches using directional antennas to enhance throughput in wireless networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic E. Rego whose telephone number is 571-272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dominic E. Rego

5/23/07

PHILIP J. SOBUTKA
PATENT EXAMINER